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VARIATION IN LEAVES.—On reading Dr. Engelmann's recent excellent publication on the Oaks of the United States, I was more than ever impressed with the uncertainty of specific characters, based on the lobing of leaves. Probably no order has as much variety in this respect as *Cupuliferæ*. I have repeatedly examined both divisions, the white oaks and the black oaks, and both have alike this tendency. In a recent visit to the nurseries of Mr. Meehan, near Germantown, Pa., where seedling oaks of many species are growing in great abundance, I found it almost an impossibility to get two of the same shape. He has *Q. aquatica* by the thousand, with leaves varying from almost linear, that could scarcely be distinguished from *Q. Phellos*, to lobed, much like our *Q. nigra*, and all the intermediate forms; and, too, all of them very unlike the mature leaves of *Q. aquatica* I have seen from the south. *Q. heterophylla*, of which some fine specimens have been detected near Woodbury, N. J., possesses this same tendency to change shape, some indeed coming near that of *Q. falcata*.

I remember collecting at Byberry, Pa., some fifteen years ago, leaves from a small shrub that were very curiously shaped, indeed, I could not determine it at all. Much to my surprise, a year or two afterward, it turned out to be *Morus rubra*. Thus it appears that the leaves on young plants are often very dissimilar to those on old or mature ones.

Some time ago I examined the *Sagittaria variabilis*, common along our river shores, and found the leaves in great variation, from acute to obtuse; long taper pointed to short and blunt; long, narrow lobes to broad, wide spreading ones; some with one lobe, others with none; the leaf stalk from a few inches in length to three feet; and all growing promiscuously in a space not more than twenty yards in diameter.

The *Onoclea sensibilis*, also presents a great variety of forms. In some fronds the shape is nearly that of an equilateral triangle; in others longer and tapering to a point; whilst in others with a very broad base. The pinnæ also, are sometimes nearly entire, or crenately notched, and pass through intermediate forms almost to pinnatifid, the lobes also being acute or obtuse. In September, 1875, I collected near Germantown, Pa., the var. *obtusilobata*, a very peculiar form, with the fruit dots quite conspicuous on the under surface, without the pinnæ losing their foliaceous character. The plant from which the figure of *O. obtusilobata*, Schkuhr, was taken, I learn from Prof. Gray, was possibly found near Lancaster, Pa.

The most wonderful example, however, that I have met with was in a specimen of *Verbascum Thapsus*, recently observed growing along a railroad in what is familiarly known as the "neck," below Philadelphia. There was but a single plant, and this its first year, consequently had only the radical leaves, but every one was lobed or cut-toothed in a curious manner. Some of the leaves measured twenty-two inches in length and from four to six in width, and the margins, besides being lobed were very wavy, even those from the center, that were just beginning to unfold, having the same peculiarity. It will be interesting to know whether the flowering stalk of next year, will develop in the same manner. *Lappula major*, is said to have been found sporting in this way, but I have never so met with it.—ISAAC C. MARTINDALE, Camden, N. J.

CURIOUS MANNER OF VERBENA URTICIFOLIA IN DISCHARGING THE COROLLA.—After giving the plant a little jar, in about one and a half to two minutes the flowers will be seen to fall fast. Upon minute examination with a pocket lens the corolla will be seen to be moving out from the calyx (that embraces it closely) very slowly at first, but soon quite fast and is pushed until it is quite free from it and falls to the ground. By the action of what organs this is accomplished I have been unable to discover, but probably by the straightening of the bent tube of the corolla itself, or some contracting movement of the calyx lobes. Now is a good time to observe the phenomenon. Will some botanist of leisure investigate and report